

12  
 775  
 PRT  
 Pyrococcus furiosus

12  
 Met Ile Leu Asp Val Asp Tyr Ile Thr Glu Glu Gly Lys Pro Val Ile  
 1 5 10 15  
 Arg Leu Phe Lys Lys Glu Asn Gly Lys Phe Lys Ile Glu His Asp Arg  
 20 25 30  
 Thr Phe Arg Pro Tyr Ile Tyr Ala Leu Leu Arg Asp Asp Ser Lys Ile  
 35 40 45  
 Glu Glu Val Lys Lys Ile Thr Gly Glu Arg His Gly Lys Ile Val Arg  
 50 55 60  
 Ile Val Asp Val Glu Lys Val Glu Lys Lys Phe Leu Gly Lys Pro Ile  
 65 70 75 80  
 Thr Val Trp Lys Leu Tyr Leu Glu His Pro Gln Asp Val Pro Thr Ile  
 85 90 95  
 Arg Glu Lys Val Arg Glu His Pro Ala Val Val Asp Ile Phe Glu Tyr  
 100 105 110  
 Asp Ile Pro Phe Ala Lys Arg Tyr Leu Ile Asp Lys Gly Leu Ile Pro  
 115 120 125  
 Met Glu Gly Glu Glu Glu Leu Lys Ile Leu Ala Phe Asp Ile Glu Thr  
 130 135 140  
 Leu Tyr His Glu Gly Glu Glu Phe Gly Lys Gly Pro Ile Ile Met Ile  
 145 150 155 160  
 Ser Tyr Ala Asp Glu Asn Glu Ala Lys Val Ile Thr Trp Lys Asn Ile  
 165 170 175  
 Asp Leu Pro Tyr Val Glu Val Val Ser Ser Glu Arg Glu Met Ile Lys  
 180 185 190  
 Arg Phe Leu Arg Ile Ile Arg Glu Lys Asp Pro Asp Ile Ile Val Thr  
 195 200 205  
 Tyr Asn Gly Asp Ser Phe Asp Phe Pro Tyr Leu Ala Lys Arg Ala Glu  
 210 215 220  
 Lys Leu Gly Ile Lys Leu Thr Ile Gly Arg Asp Gly Ser Glu Pro Lys  
 225 230 235 240  
 Met Gln Arg Ile Gly Asp Met Thr Ala Val Glu Val Lys Gly Arg Ile  
 245 250 255  
 His Phe Asp Leu Tyr His Val Ile Thr Arg Thr Ile Asn Leu Pro Thr  
 260 265 270  
 Tyr Thr Leu Glu Ala Val Tyr Glu Ala Ile Phe Gly Lys Pro Lys Glu  
 275 280 285  
 Lys Val Tyr Ala Asp Glu Ile Ala Lys Ala Trp Glu Ser Gly Glu Asn  
 290 295 300  
 Leu Glu Arg Val Ala Lys Tyr Ser Met Glu Asp Ala Lys Ala Thr Tyr  
 305 310 315 320  
 Glu Leu Gly Lys Glu Phe Leu Pro Met Glu Ile Gln Leu Ser Arg Leu  
 325 330 335  
 Val Gly Gln Pro Leu Trp Asp Val Ser Arg Ser Ser Thr Gly Asn Leu  
 340 345 350  
 Val Glu Trp Phe Leu Leu Arg Lys Ala Tyr Glu Arg Asn Glu Val Ala  
 355 360 365  
 Pro Asn Lys Pro Ser Glu Glu Glu Tyr Gln Arg Arg Leu Arg Glu Ser  
 370 375 380  
 Tyr Thr Gly Gly Phe Val Lys Glu Pro Glu Lys Gly Leu Trp Glu Asn  
 385 390 395 400  
 Ile Val Tyr Leu Asp Phe Arg Ala Leu Tyr Pro Ser Ile Ile Thr  
 405 410 415  
 His Asn Val Ser Pro Asp Thr Leu Asn Leu Glu Gly Cys Lys Asn Tyr  
 420 425 430  
 Asp Ile Ala Pro Gln Val Gly His Lys Phe Cys Lys Asp Ile Pro Gly  
 435 440 445  
 Phe Ile Pro Ser Leu Leu Gly His Leu Leu Glu Glu Arg Gln Lys Ile

450		455		460
Lys Thr Lys Met Lys Glu Thr Gln Asp Pro Ile Glu Lys Ile Leu Leu				
465		470		480
Asp Tyr Arg Gln Lys Ala Ile Lys Leu Leu Ala Asn Ser Phe Tyr Gly				
	485		490	495
Tyr Tyr Gly Tyr Ala Lys Ala Arg Trp Tyr Cys Lys Glu Cys Ala Glu				
	500		505	510
Ser Val Thr Ala Trp Gly Arg Lys Tyr Ile Glu Leu Val Trp Lys Glu				
	515		520	525
Leu Glu Glu Lys Phe Gly Phe Lys Val Leu Tyr Ile Asp Thr Asp Gly				
	530		535	540
Leu Tyr Ala Thr Ile Pro Gly Gly Glu Ser Glu Glu Ile Lys Lys Lys				
	545		550	560
Ala Leu Glu Phe Val Lys Tyr Ile Asn Ser Lys Leu Pro Gly Leu Leu				
	565		570	575
Glu Leu Glu Tyr Glu Gly Phe Tyr Lys Arg Gly Phe Phe Val Thr Lys				
	580		585	590
Lys Arg Tyr Ala Val Ile Asp Glu Gly Lys Val Ile Thr Arg Gly				
	595		600	605
Leu Glu Ile Val Arg Arg Asp Trp Ser Glu Ile Ala Lys Glu Thr Gln				
	610		615	620
Ala Arg Val Leu Glu Thr Ile Leu Lys His Gly Asp Val Glu Glu Ala				
	625		630	640
Val Arg Ile Val Lys Glu Val Ile Gln Lys Leu Ala Asn Tyr Glu Ile				
	645		650	655
Pro Pro Glu Lys Leu Ala Ile Tyr Glu Gln Ile Thr Arg Pro Leu His				
	660		665	670
Glu Tyr Lys Ala Ile Gly Pro His Val Ala Val Ala Lys Lys Leu Ala				
	675		680	685
Ala Lys Gly Val Lys Ile Lys Pro Gly Met Val Ile Gly Tyr Ile Val				
	690		695	700
Leu Arg Gly Asp Gly Pro Ile Ser Asn Arg Ala Ile Leu Ala Glu Glu				
	705		710	720
Tyr Asp Pro Lys Lys His Lys Tyr Asp Ala Glu Tyr Tyr Ile Glu Asn				
	725		730	735
Gln Val Leu Pro Ala Val Leu Arg Ile Leu Glu Gly Phe Gly Tyr Arg				
	740		745	750
Lys Glu Asp Leu Arg Tyr Gln Lys Thr Arg Gln Val Gly Leu Thr Ser				
	755		760	765
Trp Leu Asn Ile Lys Lys Ser				
	770		775	

BRS	L1	57672	polymerase	USPAT	2009/09/29 14:31
BRS	L2	25066	l1 and (muta? or variant)	USPAT	2009/09/29 14:32
BRS	L3	2264140	s 12 and ("385" or "387" or "388" or "410" or "593" or "595" or "542" or "543")	USPAT	2009/09/29 14:33
BRS	L4	2263865	s 13 and ("y385" or "g387" or "g388" or "y410" or "k593" or "y595" or "t542" or "d543")	USPAT	2009/09/29 14:33
BRS	L5	143	14 and polymerase adj mutant	USPAT	2009/09/29 14:34
BRS	L6	67	15 and pfu	USPAT	2009/09/29 14:46
BRS	L7	578992	("385" or "387" or "388" or "410" or "593" or "595" or "542" or "543")	USPAT	2009/09/29 15:02
BRS	L8	2265	("385" or "387" or "388" or "410" or "593" or "595" or "542" or "543").clm.	USPAT	2009/09/29 15:03
BRS	L9	3	YXGG	USPAT	2009/09/29 15:11

Searched for specific motifs that covered the mutant residues, in so doing found:  
US Patent No. 688,159